

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1-13. (Canceled)

14. (Currently amended) A stable bioadhesive nanoparticulate composition which adsorbs to a biological surface and which comprises:

- (a) active agent particles in a crystalline state, wherein the active agent particles have an effective average particle size of less than about 4000 nm;  
and
- (b) adsorbed to the surface thereof at least one cationic surface stabilizer selected from the group consisting of a polymer, a biopolymer, a polysaccharide, a cellulosic, an alginate, and a nonpolymeric compound,  
wherein:
  - (i) the nonpolymeric compound is not benzalkonium chloride; and
  - (ii) the composition does not comprise a phospholipid; and
- (c) wherein the cationic surface stabilizer is in an amount effective to cause nanoparticles of the stable bioadhesive nanoparticulate composition to adhere to a biological surface.

15. (Original) The composition of claim 14 having benzalkonium chloride as a secondary surface stabilizer.

16. (Original) The composition of claim 14, wherein the surface stabilizer is selected from the group consisting of polymethylmethacrylate trimethylammonium bromide, polyvinylpyrrolidone-2-dimethylaminoethyl methacrylate dimethyl sulfate, and hexadecyltrimethyl ammonium bromide.

17. (Original) The composition of claim 14, wherein the active agent is selected from the group consisting of a poorly water-soluble active agent and a water-soluble active agent.

18. (Original) The composition of claim 14, wherein the active agent is selected from the group consisting of a drug, vitamin, herb, cosmetic agent, coloring agent, flavor agent, fragrance agent, sunscreen, moisturizer, deodorant, food product, hair conditioner agent, hair dye, hair spray agent, hair cosmetic agent, hair cleanser agent, depilatory agent, insecticide, fertilizer, pesticide, herbicide, germicide, and plant growth regulating agent.

19. (Currently Amended) The composition of claim 18, wherein the drug is selected from the group consisting of proteins, peptides, ~~nutriceuticals~~ **nutraceuticals**, anti-obesity agents, corticosteroids, elastase inhibitors, analgesics, anti-fungals, oncology therapies, anti-emetics, analgesics, cardiovascular agents, anti-inflammatory agents, anthelmintics, anti-arrhythmic agents, antibiotics, anticoagulants, antidepressants, antidiabetic agents, antiepileptics, antihistamines, antihypertensive agents, antimuscarinic agents, antimycobacterial agents, antineoplastic agents, immunosuppressants, antithyroid agents, antiviral agents, anxiolytic sedatives, astringents, beta-adrenoceptor blocking agents, blood products and substitutes, cardiac inotropic agents, contrast media, cough suppressants, diagnostic agents, diagnostic imaging agents, diuretics, dopaminergics, haemostatics, immunological agents, lipid regulating agents, muscle relaxants, parasympathomimetics, parathyroid calcitonin and biphosphonates, prostaglandins, radio- pharmaceuticals, sex hormones, anti-allergic agents, stimulants and anoretics, sympathomimetics, thyroid agents, vasodilators, xanthines, acne medication, alpha-hydroxy formulations, cystic-fibrosis therapies, asthma therapies, emphysema therapies, respiratory distress syndrome therapies, chronic bronchitis therapies, chronic obstructive pulmonary disease therapies, organ-transplant rejection therapies, therapies for tuberculosis and other infections of the lung, and respiratory illness therapies associated with acquired immune deficiency syndrome.

20. (Original) The composition of claim 14, wherein the composition is formulated for administration selected from the group consisting of vaginal, ocular, nasal, buccal, oral, colonic, topical, and subcutaneous administration.

21. (Original) The composition of claim 14, wherein the effective average particle size of the agent particles is selected from the group consisting of less than about 3500 nm, less than about 3000 nm, less than about 2500 nm, less than about 2000 nm, less than about 1500 nm, less than about 1000 nm, less than about 800 nm, less than about 700 nm, less than about 600 nm, less than about 400 nm, less than about 300 nm, less than about 250 nm, less than about 200 nm, less than about 100 nm, and less than about 50 nm.

22. (Original) The composition of claim 14, wherein the composition further comprises one or more pharmaceutically acceptable excipients.

23. (Original) The composition of claim 14, wherein the particles are present in an amount of about 99.99 to 0.01(w/w) based on the total weight of the composition.

24. (Original) The composition of claim 14, wherein the surface stabilizer is present in an amount of about 0.001 to about 99.999% (w/w) based on the total weight of the composition.

25. (Original) The composition of claim 14, wherein the composition adsorbs to a biological surface selected from the group consisting of an insect, teeth, bone, nails, chitin, feathers, scales, mucous, skin, hair, and plant tissue.

26. (Original) The composition of claim 14 in a dry powder form.

27. (Currently amended) A stable bioadhesive nanoparticulate composition comprising:

- (a) poorly water-soluble active agent particles which are in a liquid state at or near room temperature; and
- (b) adsorbed to the surface thereof at least one cationic surface stabilizer, wherein:
  - (i) the active agent particles are dispersed in a liquid medium in which they are poorly soluble;
  - (ii) the active agent particles have an effective average particle size of less than about 4000 nm; and
  - (iii) wherein the cationic surface stabilizer is in an amount effective to cause nanoparticles of the stable bioadhesive nanoparticulate composition to adhere to a biological surface; and
  - (iv) the nanoparticulate composition adsorbs to a biological surface.

28. (Original) The composition of claim 27, wherein the dispersion medium is water.

29. (Original) The composition of claim 27, wherein the active agent is selected from the group consisting of a drug, vitamin, herb, cosmetic agent, coloring agent, flavor agent, fragrance agent, sunscreen, moisturizer, deodorant, food product, hair conditioner agent, hair dye, hair spray agent, hair cosmetic agent, hair cleanser agent, depilatory agent, insecticide, fertilizer, pesticide, herbicide, germicide, and plant growth regulating agent.

30. (Currently Amended) The composition of claim 29, wherein the drug is selected from the group consisting of proteins, peptides, ~~nutriceuticals~~ **nutraceuticals**, anti-obesity agents, elastase inhibitors, analgesics, anti-fungals, oncology therapies, anti-emetics, analgesics, cardiovascular agents, anti-inflammatory agents, anthelmintics, anti-arrhythmic agents, antibiotics, anticoagulants, antidepressants, antidiabetic agents, antiepileptics, antihistamines, antihypertensive agents, antimuscarinic agents, antimycobacterial agents, antineoplastic agents, immunosuppressants, antithyroid agents, antiviral agents, anxiolytic

sedatives, astringents, beta-adrenoceptor blocking agents, blood products and substitutes, cardiac inotropic agents, contrast media, corticosteroids, cough suppressants, diagnostic agents, diagnostic imaging agents, diuretics, dopaminergics, haemostatics, immunological agents, lipid regulating agents, muscle relaxants, parasympathomimetics, parathyroid calcitonin and biphosphonates, prostaglandins, radio- pharmaceuticals, sex hormones, anti-allergic agents, stimulants and anoretics, sympathomimetics, thyroid agents, vasodilators, xanthines, cystic-fibrosis therapies, asthma therapies, emphysema therapies, respiratory distress syndrome therapies, chronic bronchitis therapies, chronic obstructive pulmonary disease therapies, organ-transplant rejection therapies, therapies for tuberculosis and other infections of the lung, and respiratory illness therapies associated with acquired immune deficiency syndrome.

31. (Original) The composition of claim 27, wherein the composition is formulated for administration selected from the group consisting of vaginal, ocular, nasal, buccal, oral, colonic, topical, and subcutaneous administration.

32. (Original) The composition of claim 27, wherein the at least one cationic surface stabilizer is selected from the group consisting of a polymer, a biopolymer, a polysaccharide, a cellulosic, an alginate, a nonpolymeric compound, and a phospholipid.

33. (Original) The composition of claim 27, wherein the surface stabilizer is selected from the group consisting of benzalkonium chloride, polymethylmethacrylate trimethylammonium bromide, polyvinylpyrrolidone-2-dimethylaminoethyl methacrylate dimethyl sulfate, and hexadecyltrimethyl ammonium bromide.

34. (Original) The composition of claim 27, wherein the effective average particle size of the agent particles is selected from the group consisting of less than about 3500 nm, less than 3000 nm less than 2500 nm, less than 2000 nm, less than about 1500 nm, less than about 1000 nm, less than about 800 nm, less than about 700 nm, less than about 600

nm, less than about 400 nm, less than about 300 nm, less than about 250 nm, less than about 200 nm, less than about 100 nm, and less than about 50 nm.

35. (Original) The composition of claim 27, wherein the composition further comprises one or more pharmaceutically acceptable excipients.

36. (Original) The composition of claim 27, wherein the particles are present in an amount of about 99.99 to 0.01% (w/w) based on the total weight of the composition.

37. (Original) The composition of claim 27, wherein the surface stabilizer is present in an amount of about 0.001 to about 99.999% (w/w).

38. (Original) The composition of claim 27, wherein the composition adsorbs to a biological surface selected from the group consisting of an insect, teeth, bone, nails, chitin, feathers, scales, mucous, skin, hair, and plant tissue.

39. (Currently amended) A stable bioadhesive nanoparticulate composition comprising:
- (a) water-soluble active agent particles which are in a liquid state at or near room temperature; and
  - (b) adsorbed to the surface thereof at least one cationic surface stabilizer, wherein:
    - (i) the active agent particles are dispersed in a liquid medium in which they are poorly soluble;
    - (ii) the active agent particles have an effective average particle size of less than about 4000 nm; and
    - (iii) wherein the cationic surface stabilizer is in an amount effective to cause nanoparticles of the stable bioadhesive nanoparticulate composition to adhere to a biological surface; and
    - (iv) the nanoparticulate composition adsorbs to a biological surface.

40. (Original) The composition of claim 39, wherein the dispersion medium is selected from the group consisting of mineral oil, vegetable oils, and a hydrocarbon.

41. (Original) The composition of claim 39, wherein the active agent is selected from the group consisting of a drug, vitamin, herb, cosmetic agent, coloring agent, flavor agent, fragrance agent, sunscreen, moisturizer, deodorant, food product, hair conditioner agent, hair dye, hair spray agent, hair cosmetic agent, hair cleanser agent, depilatory agent, insecticide, fertilizer, pesticide, herbicide, germicide, and plant growth regulating agent.

42. (Currently Amended) The composition of claim 41, wherein the drug is selected from the group consisting of proteins, peptides, ~~nutriceuticals~~ **nutraceuticals**, anti-obesity agents, elastase inhibitors, analgesics, anti-fungals, oncology therapies, anti-emetics, analgesics, cardiovascular agents, anti-inflammatory agents, anthelmintics, anti-arrhythmic agents, antibiotics, anticoagulants, antidepressants, antidiabetic agents, antiepileptics, antihistamines, antihypertensive agents, antimuscarinic agents, antimycobacterial agents, antineoplastic agents, immunosuppressants, antithyroid agents, antiviral agents, anxiolytic sedatives, astringents, beta-adrenoceptor blocking agents, blood products and substitutes, cardiac inotropic agents, contrast media, corticosteroids, cough suppressants, diagnostic agents, diagnostic imaging agents, diuretics, dopaminergics, haemostatics, immunological agents, lipid regulating agents, muscle relaxants, parasympathomimetics, parathyroid calcitonin and biphosphonates, prostaglandins, radio- pharmaceuticals, sex hormones, anti-allergic agents, stimulants and anoretics, sympathomimetics, thyroid agents, vasodilators, xanthines, cystic-fibrosis therapies, asthma therapies, emphysema therapies, respiratory distress syndrome therapies, chronic bronchitis therapies, chronic obstructive pulmonary disease therapies, organ-transplant rejection therapies, therapies for tuberculosis and other infections of the lung, and respiratory illness therapies associated with acquired immune deficiency syndrome.

43. (Original) The composition of claim 39, wherein the composition is formulated for administration selected from the group consisting of vaginal, ocular, nasal, buccal, oral, colonic, topical, and subcutaneous administration.

44. (Original) The composition of claim 39, wherein the at least one cationic surface stabilizer is selected from the group consisting of a polymer, a biopolymer, a polysaccharide, a cellulosic, an alginate, a nonpolymeric compound, and a phospholipid.

45. (Original) The composition of claim 39, wherein the surface stabilizer is selected from the group consisting of benzalkonium chloride, polymethylmethacrylate trimethylammonium bromide, polyvinylpyrrolidone-2-dimethylaminoethyl methacrylate dimethyl sulfate, and hexadecyltrimethyl ammonium bromide.

46. (Original) The composition of claim 39, wherein the effective average particle size of the agent particles is selected from the group consisting of less than about 3500 nm, less than about 3000 nm, less than about 2500 nm, less than about 2000 nm less than about 1500 nm, less than about 1000 nm, less than about 800 nm, less than about 700 nm, less than about 600 nm, less than about 400 nm, less than about 300 nm, less than about 250 nm, less than about 200 nm, less than about 100 nm, and less than about 50 nm.

47. (Original) The composition of claim 39, wherein the composition further comprises one or more pharmaceutically acceptable excipients.

48. (Original) The composition of claim 39, wherein the active agent particles are present in an amount of about 99.99 to 0.01% (w/w).

49. (Original) The composition of claim 39, wherein the surface stabilizer is present in an amount of about 0.001 to about 99.999% (w/w).



50. (Original) The composition of claim 39, wherein the biological surface is selected from the group consisting of an insect, teeth, bone, nails, chitin, feathers, scales, mucous, skin, hair, and plant tissue.

51. (Currently amended) A stable bioadhesive nanoparticulate composition comprising:

- (a) active agent dissolved or dispersed in liquid droplets of a poorly water-soluble liquid; and
- (b) adsorbed to the surface of the liquid droplets at least one cationic surface stabilizer,

wherein:

- (i) the liquid droplets comprising active agent are dispersed in a liquid medium in which they are poorly soluble;
- (ii) the liquid droplets comprising active agent have an effective average particle size of less than about 4000 nm; ~~and~~
- (iii) wherein the cationic surface stabilizer is in an amount effective to cause nanoparticles of the stable bioadhesive nanoparticulate composition to adhere to a biological surface; and
- (iv) the nanoparticulate composition adsorbs to a biological surface.

52. (Original) The composition of claim 51, wherein the poorly water-soluble liquid in which the active agent is dissolved is selected from the group consisting of mineral oil, vegetable oils, and a hydrocarbon.

53. (Original) The composition of claim 51, wherein the liquid droplets comprising active agent are dispersed in water.

54. (Original) The composition of claim 51, wherein the active agent is selected from the group consisting of a drug, vitamin, herb, cosmetic agent, coloring agent, flavor agent, fragrance agent, sunscreen, moisturizer, deodorant, food product, hair

conditioner agent, hair dye, hair spray agent, hair cosmetic agent, hair cleanser agent, depilatory agent, insecticide, fertilizer, pesticide, herbicide, germicide, and plant growth regulating agent.

55. (Currently Amended) The composition of claim 51, wherein the drug is selected from the group consisting of proteins, peptides, ~~nutriceuticals~~ **nutraceuticals**, anti-obesity agents, elastase inhibitors, analgesics, anti-fungals, oncology therapies, anti-emetics, analgesics, cardiovascular agents, anti-inflammatory agents, anthelmintics, anti-arrhythmic agents, antibiotics, anticoagulants, antidepressants, antidiabetic agents, antiepileptics, antihistamines, antihypertensive agents, antimuscarinic agents, antimycobacterial agents, antineoplastic agents, immunosuppressants, antithyroid agents, antiviral agents, anxiolytic sedatives, astringents, beta-adrenoceptor blocking agents, blood products and substitutes, cardiac inotropic agents, contrast media, corticosteroids, cough suppressants, diagnostic agents, diagnostic imaging agents, diuretics, dopaminergics, haemostatics, immunological agents, lipid regulating agents, muscle relaxants, parasympathomimetics, parathyroid calcitonin and biphosphonates, prostaglandins, radio- pharmaceuticals, sex hormones, anti-allergic agents, stimulants and anoretics, sympathomimetics, thyroid agents, vasodilators, xanthines, cystic-fibrosis therapies, asthma therapies, emphysema therapies, respiratory distress syndrome therapies, chronic bronchitis therapies, chronic obstructive pulmonary disease therapies, organ-transplant rejection therapies, therapies for tuberculosis and other infections of the lung, and respiratory illness therapies associated with acquired immune deficiency syndrome.

56. (Original) The composition of claim 51, wherein the composition is formulated for administration selected from the group consisting of vaginal, ocular, nasal, buccal, oral, colonic, topical, and subcutaneous administration.

57. (Original) The composition of claim 51, wherein the at least one cationic surface stabilizer is selected from the group consisting of a polymer, a biopolymer, a polysaccharide, a cellulosic, an alginate, a nonpolymeric compound, and a phospholipid.

58. (Original) The composition of claim 51, wherein the surface stabilizer is selected from the group consisting of benzalkonium chloride, polymethylmethacrylate trimethylammonium bromide, polyvinylpyrrolidone-2-dimethylaminoethyl methacrylate dimethyl sulfate, and hexadecyltrimethyl ammonium bromide.

59. (Original) The composition of claim 51, wherein the effective average particle size of the liquid droplets comprising active agent is selected from the group consisting of less than about 3500 nm, less than about 3000 nm, less than about 2500 nm, less than about 2000 nm less than about 1500 nm, less than about 1000 nm, less than about 800 nm, less than about 700 nm, less than about 600 nm, less than about 400 nm, less than about 300 nm, less than about 250 nm, less than about 200 nm, less than about 100 nm, and less than about 50 nm.

60. (Original) The composition of claim 51, wherein the composition further comprises one or more pharmaceutically acceptable excipients.

61. (Original) The composition of claim 51, wherein the active agent particles are present in an amount of about 99.99 to 0.01% (w/w).

62. (Original) The composition of claim 51, wherein the surface stabilizer is present in an amount of about 0.001 to about 99.999% (w/w).

63. (Original) The composition of claim 51, wherein the biological surface is selected from the group consisting of an insect, teeth, bone, nails, chitin, feathers, scales, mucous, skin, hair, and plant tissue.

64. (Currently amended) A stable bioadhesive nanoparticulate composition comprising:

- (a) active agent dissolved or dispersed in liquid droplets of a water-soluble liquid;  
and
- (b) adsorbed to the surface of the liquid droplets at least one cationic surface stabilizer,  
wherein:
  - (i) the liquid droplets comprising active agent are dispersed in a liquid medium in which they are poorly soluble;
  - (ii) the liquid droplets comprising active agent have an effective average particle size of less than about 4000 nm; and
  - (iii) wherein the cationic surface stabilizer is in an amount effective to cause nanoparticles of the stable bioadhesive nanoparticulate composition to adhere to a biological surface; and
  - (iv) the nanoparticulate composition adsorbs to a biological surface.

65. (Original) The composition of claim 64, wherein the poorly water-soluble liquid in which the active agent is dissolved is water.

66. (Original) The composition of claim 64, wherein the liquid droplets comprising active agent are dispersed in a liquid medium selected from the group consisting of mineral oil, vegetable oils, and a hydrocarbon.

67. (Original) The composition of claim 64, wherein the active agent is selected from the group consisting of a drug, vitamin, herb, cosmetic agent, coloring agent, flavor agent, fragrance agent, sunscreen, moisturizer, deodorant, food product, hair conditioner agent, hair dye, hair spray agent, hair cosmetic agent, hair cleanser agent, depilatory agent, insecticide, fertilizer, pesticide, herbicide, germicide, and plant growth regulating agent.

68. (Currently Amended) The composition of claim 64, wherein the drug is selected from the group consisting of proteins, peptides, ~~nutriceuticals~~ **nutraceuticals**, anti-

obesity agents, elastase inhibitors, analgesics, anti-fungals, oncology therapies, anti-emetics, analgesics, cardiovascular agents, anti-inflammatory agents, anthelmintics, anti-arrhythmic agents, antibiotics, anticoagulants, antidepressants, antidiabetic agents, antiepileptics, antihistamines, antihypertensive agents, antimuscarinic agents, antimycobacterial agents, antineoplastic agents, immunosuppressants, antithyroid agents, antiviral agents, anxiolytic sedatives, astringents, beta-adrenoceptor blocking agents, blood products and substitutes, cardiac inotropic agents, contrast media, corticosteroids, cough suppressants, diagnostic agents, diagnostic imaging agents, diuretics, dopaminergics, haemostatics, immunological agents, lipid regulating agents, muscle relaxants, parasympathomimetics, parathyroid calcitonin and biphosphonates, prostaglandins, radio- pharmaceuticals, sex hormones, anti-allergic agents, stimulants and anoretics, sympathomimetics, thyroid agents, vasodilators, xanthines, cystic-fibrosis therapies, asthma therapies, emphysema therapies, respiratory distress syndrome therapies, chronic bronchitis therapies, chronic obstructive pulmonary disease therapies, organ-transplant rejection therapies, therapies for tuberculosis and other infections of the lung, and respiratory illness therapies associated with acquired immune deficiency syndrome.

69. (Original) The composition of claim 64, wherein the composition is formulated for administration selected from the group consisting of vaginal, ocular, nasal, buccal, oral, colonic, topical, and subcutaneous administration.

70. (Original) The composition of claim 64, wherein the at least one cationic surface stabilizer is selected from the group consisting of a polymer, a biopolymer, a polysaccharide, a cellulosic, an alginate, a nonpolymeric compound, and a phospholipid.

71. (Original) The composition of claim 64, wherein the surface stabilizer is selected from the group consisting of benzalkonium chloride, polymethylmethacrylate trimethylammonium bromide, polyvinylpyrrolidone-2-dimethylaminoethyl methacrylate dimethyl sulfate, and hexadecyltrimethyl ammonium bromide.

72. (Original) The composition of claim 64, wherein the effective average particle size of the liquid droplets comprising active agent is selected from the group consisting of less than about 3500 nm, less than about 3000 nm, less than about 2500 nm, less than about 2000 nm, less than about 1500 nm, less than about 1000 nm, less than about 800 nm, less than about 700 nm, less than about 600 nm, less than about 400 nm, less than about 300 nm, less than about 250 nm, less than about 200 nm, less than about 100 nm, and less than about 50 nm.

73. (Original) The composition of claim 64, wherein the composition further comprises one or more pharmaceutically acceptable excipients.

74. (Original) The composition of claim 64, wherein the active agent particles are present in an amount of about 99.99 to 0.01% (w/w).

75. (Original) The composition of claim 64, wherein the surface stabilizer is present in an amount of about 0.001 to about 99.999% (w/w).

76. (Original) The composition of claim 64, wherein the biological surface is selected from the group consisting of an insect, teeth, bone, nails, chitin, feathers, scales, mucous, skin, hair, and plant tissue.

77-92. (Canceled)

93. (Currently amended) A method of applying a nanoparticulate formulation to a biological surface comprising administering to the biological surface in need of such application a formulation comprising:

- (a) active agent particles in a semi-crystalline state, an amorphous state, a mixture of crystalline and semi-crystalline, a mixture of crystalline and amorphous, or a mixture of crystalline, semi-crystalline, and amorphous; and
- (b) adsorbed to the surface thereof at least one cationic surface stabilizer,

wherein:

- (i) the active agent particles have an effective average particle size of less than about 4000 nm, ~~and~~
- (ii) wherein the cationic surface stabilizer is in an amount effective to cause nanoparticles of the stable bioadhesive nanoparticulate composition to adhere to a biological surface; and
- ~~(ii)(iii)~~ the nanoparticulate composition adsorbs to the biological surface; and
- ~~(iii)(iv)~~ the composition does not comprise a phospholipid.

94. (Original) The method of claim 93, wherein the biological surface is selected from the group consisting of an insect, teeth, bone, nails, chitin, feathers, scales, mucous, skin, hair, and plant tissue.

95. (Currently amended) A method of applying a nanoparticulate formulation to a biological surface comprising administering to the biological surface in need of such application formulation comprising:

- (a) active agent particles in a crystalline state; and
- (b) adsorbed to the surface thereof at least one cationic surface stabilizer selected from the group consisting of a polymer, a biopolymer, a polysaccharide, a cellulosic, an alginate, and a nonpolymeric compound,

wherein:

- (i) the nonpolymeric compound is not benzalkonium chloride; and
- (ii) the composition does not comprise a phospholipid; and
- (c) wherein the cationic surface stabilizer is in an amount effective to cause nanoparticles of the stable bioadhesive nanoparticulate composition to adhere to a biological surface.

96. (Original) The method of claims 95, wherein the biological surface is selected from the group consisting of an insect, teeth, bone, nails, chitin, feathers, scales, mucous, skin, hair, and plant tissue.

97. (Currently amended) A method of applying a nanoparticulate formulation to plant tissue comprising administering to the plant tissue in need of such application a formulation comprising:

- (a) agriculturally active agent particles; and
- (b) adsorbed to the surface thereof at least one cationic surface stabilizer in an amount effective to cause nanoparticles of the stable bioadhesive nanoparticulate composition to adhere to a biological surface,
- (c) wherein the active agent particles have an effective average particle size of less than about 4000 nm, and wherein the nanoparticulate composition adsorbs to the plant tissue.

98. (Previously Presented) The composition of claim 14, wherein the active agent is selected from the group consisting of naproxen, cyclosporine, triamcinolone acetonide, and benzoic acid, 3,5-bis(acetylamino) 2,4,6-triido-, 4-(ethyl-3-ethoxy-2-butenate) ester.

99. (Previously Presented) The composition of claim 51, wherein the active agent is selected from the group consisting of naproxen, cyclosporine, triamcinolone acetonide, and benzoic acid, 3,5-bis(acetylamino) 2,4,6-triido-, 4-(ethyl-3-ethoxy-2-butenate) ester.

100. (Previously Presented) The composition of claim 64, wherein the active agent is selected from the group consisting of naproxen, cyclosporine, triamcinolone acetonide, and benzoic acid, 3,5-bis(acetylamino) 2,4,6-triido-, 4-(ethyl-3-ethoxy-2-butenate) ester.

101. (Previously Presented) The composition of claim 14, further comprising a secondary non-cationic surface stabilizer.



102. (Previously Presented) The composition of claim 14, wherein at least 70%, at least 90%, or at least about 95% of the active agent particles have a weight average particle size of less than about 4 microns.

103. (Previously Presented) The composition of claim 27, further comprising a secondary non-cationic surface stabilizer.

104. (Previously Presented) The composition of claim 27, wherein at least 70%, at least 90%, or at least about 95% of the active agent particles have a weight average particle size of less than about 4 microns.

105. (Previously Presented) The composition of claim 39, further comprising a secondary non-cationic surface stabilizer.

106. (Previously Presented) The composition of claim 39, wherein at least 70%, at least 90%, or at least about 95% of the active agent particles have a weight average particle size of less than about 4 microns.

107. (Previously Presented) The composition of claim 51, further comprising a secondary non-cationic surface stabilizer.

108. (Previously Presented) The composition of claim 51, wherein at least 70%, at least 90%, or at least about 95% of the liquid droplets comprising active agent have a weight average particle size of less than about 4 microns.

109. (Previously Presented) The composition of claim 64, further comprising a secondary non-cationic surface stabilizer.

110. (Previously Presented) The composition of claim 64, wherein at least 70%, at least 90%, or at least about 95% of the liquid droplets comprising active agent have a weight average particle size of less than about 4 microns.